Interoperability

Impact on the Business Area Manager

NDIA / AIAA Interoperability Conference

Mesa, Arizona

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L-3 Communications - Who We Are

communications Integrated Systems

4/97 Ten Business Units Divested by LMT to form L-3

Lanza, LaPenta, Lehman Brothers - 1996 Revenues $665M - Solid Companies, Strong Financials

2/98 Acquired Satellite Transmission Systems from California Microwave
2/98 Acquired ILEX Systems (private)
3/98 Acquired Ocean Systems from Allied Signal
5/98 Initial Public Offering (NYSE:LLL)
8/98 Acquired SPD Technologies (private)
9/98 Acquired Storm Control Systems (private)
1/99 Acquired Microdyne Corporation (NASDAQ/NM:MCDY)
2/99 Follow-on Public Offering
4/99 Acquired Aydin Corporation (NYSE:AYD)
6/99 Acquired Interstate Electronics Corp. from Scott Technologies
12/99 Acquired Space and Navigation from AlliedSignal
2/00 Acquired LNR & EMP of Trex Communications Corporation
2/00 Acquired Training Devices & Training Services from Raytheon
4/00 Acquired TCAS Product Line from Honeywell
6/00 Acquired MPRI
12/00 Acquired Coleman Research Corporation
5/01 Acquired KDI Precision Products, Inc.
5/01 Acquired EER Systems Inc.
11/01 Acquired Spar Aerospace
11/01 Acquired Emergent Government Services Group
12/01 Acquired the Defense Business of Bulova Technologies
12/01 Acquired Scandia Technologies
12/01 Acquired SY Technology Inc
1/02 Under Contract to Acquire PerkinElmer's Detection Systems
3/02 Acquired Aircraft Integration Systems (AIS) from Raytheon

A Major Player in the Defense Electronics Field

L-3 Communications Integrated Systems

A Key Player in Worldwide ISR Interoperability

Interoperability

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interoperability 1. The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces and to use the services so exchanged to enable them to operate effectively together.

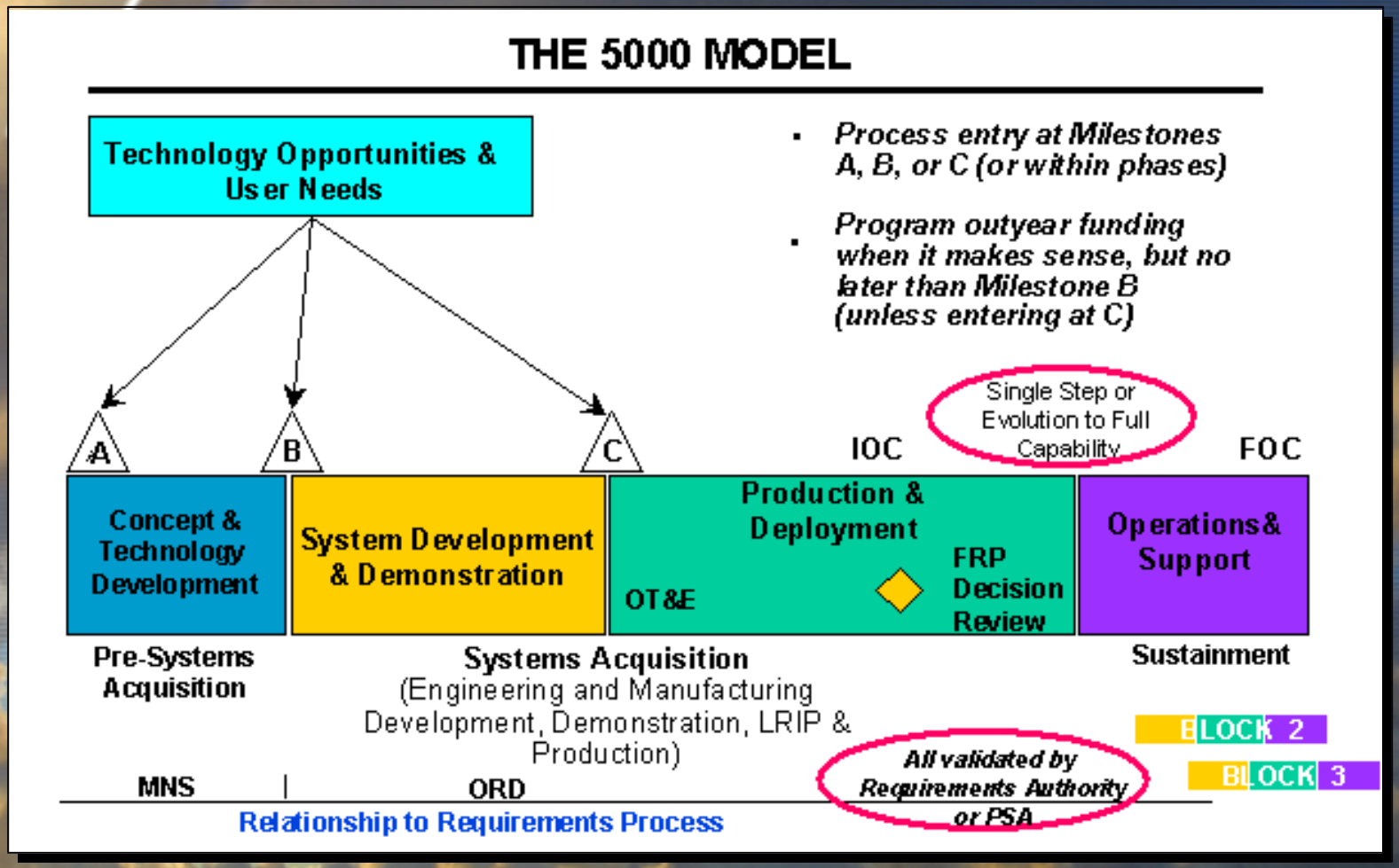
from Joint Pub 1-02 - Department of Defense Dictionary of Military and Associated Terms

"Interoperability is the ability of systems, units, or forces to provide data, information, materiel, and services to and accept the same from other systems, units, or forces, and to use the data, information, materiel, and services so exchanged to enable them to operate effectively together."

From the Acquisition Deskbook

The Devil Is in the Details

DOD - Industry Interoperation



Interoperability Opportunities Abound ... Challenges Do Too!

The Business Cycle - Level 1

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Defining Documents

CONTRACT

STATEMENT OF WORK

SPECIFICATIONS

CDRL

SCHEDULE

Systems

Good Requirements Fuel the Product Engine

Business Cycle - Level 2

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IEEE 1220 EIA 632 ISO15288

The Nuts and Bolts

Requirements Definition- Where the Action Is

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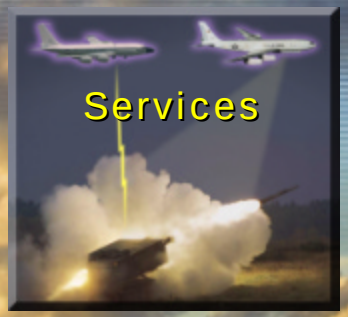
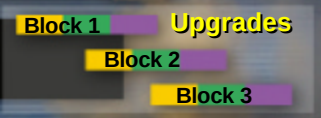


Pull — Obtain data and information you need or want

Push — Receive data and information you don't need - sometimes "spam"-like

Design — Define what you want, not how to do it

COTS — Remember fast moving commercial products tend to clash with legacy system commonality



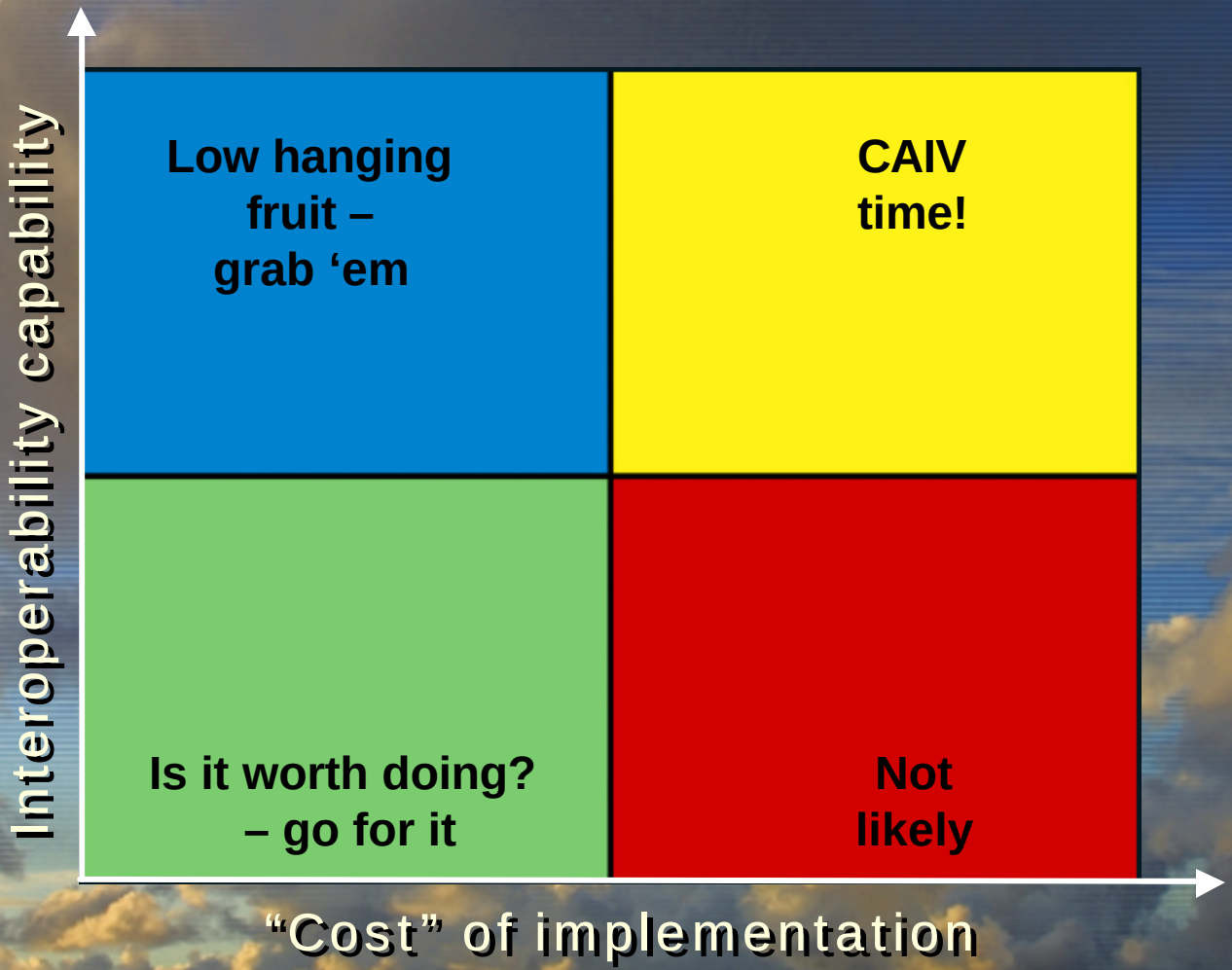
Reuse — Recognize that dictates of common material (hardware and software) sometimes diametrically oppose COTS

Control — Define requirements to tell platform what you need, rather than taking control of sensor – chaos

Discussion, Collaboration — Promote discussions and collaboration in establishing requirements … different from "telling"

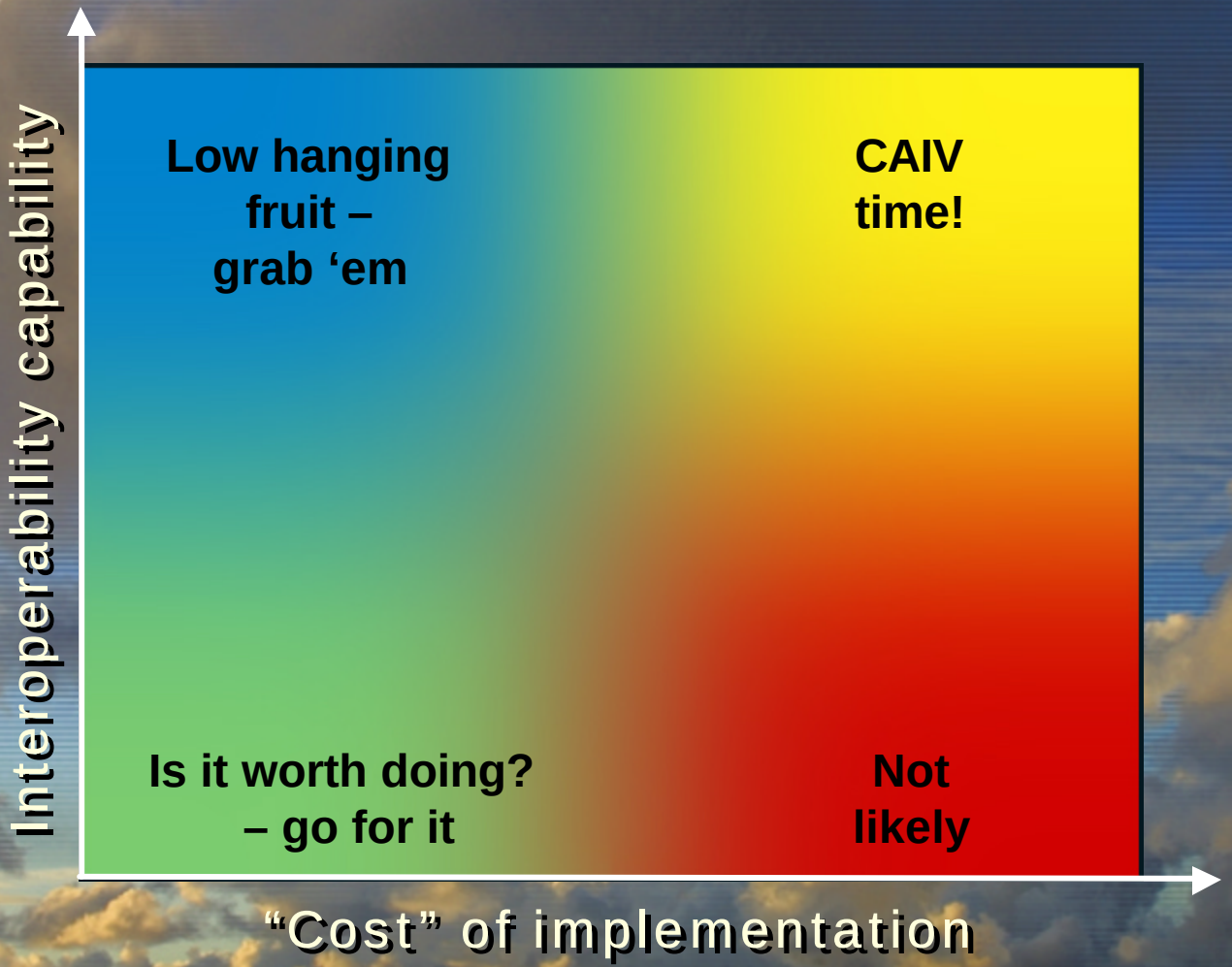
Requirements Can Be Intrusive or Non-intrusive

Requirement Impact Assessment Framework



Capabilities Must Be Measured Against Cost

Framework Reality Sets In



Real-World Boundaries Are Less Defined

Where Do the Requirements Land?

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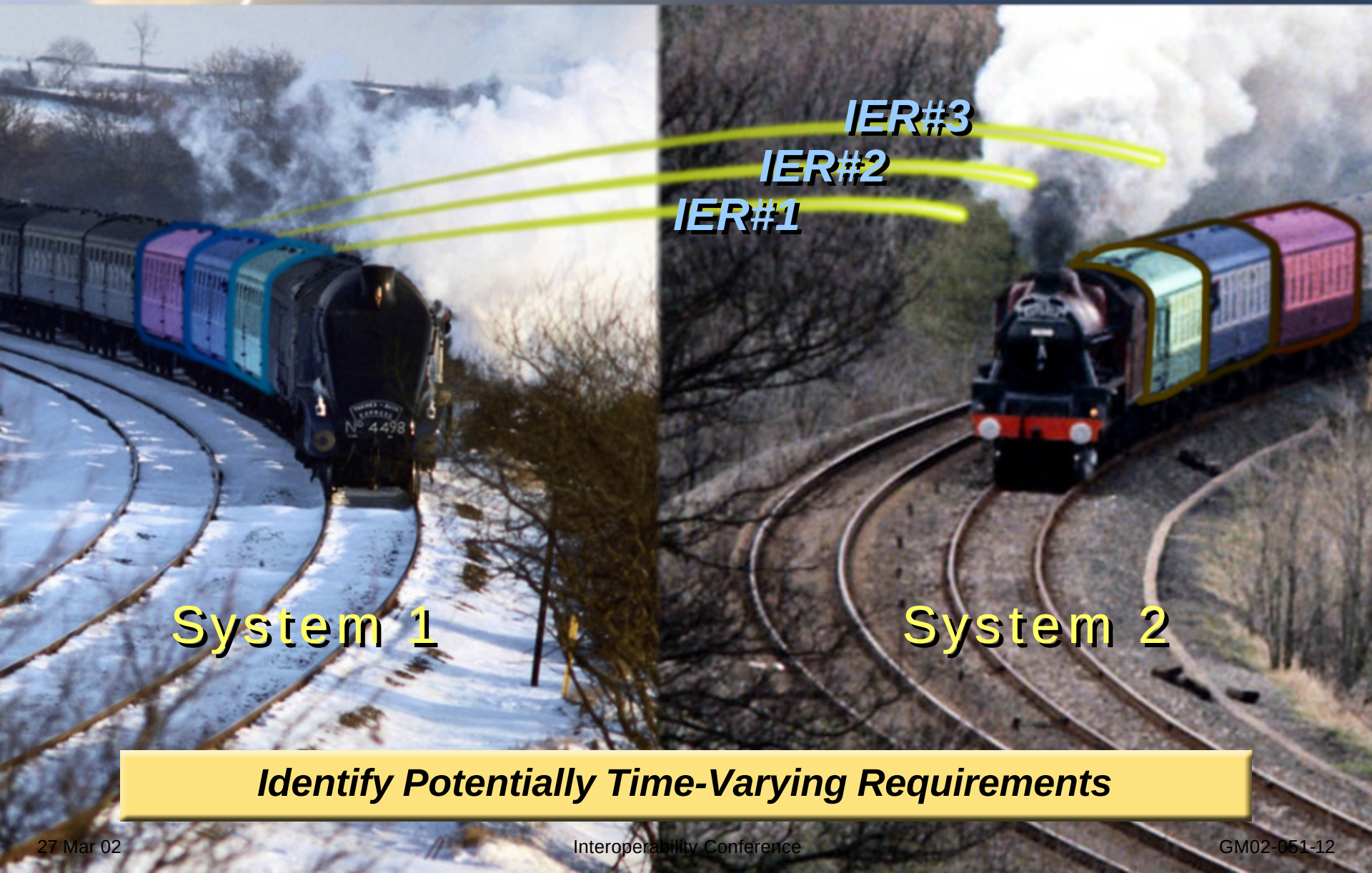
Intrusive Requirements Push to the Right

The Moving Target

communications

Integrated Systems



Identify Potentially Time-Varying Requirements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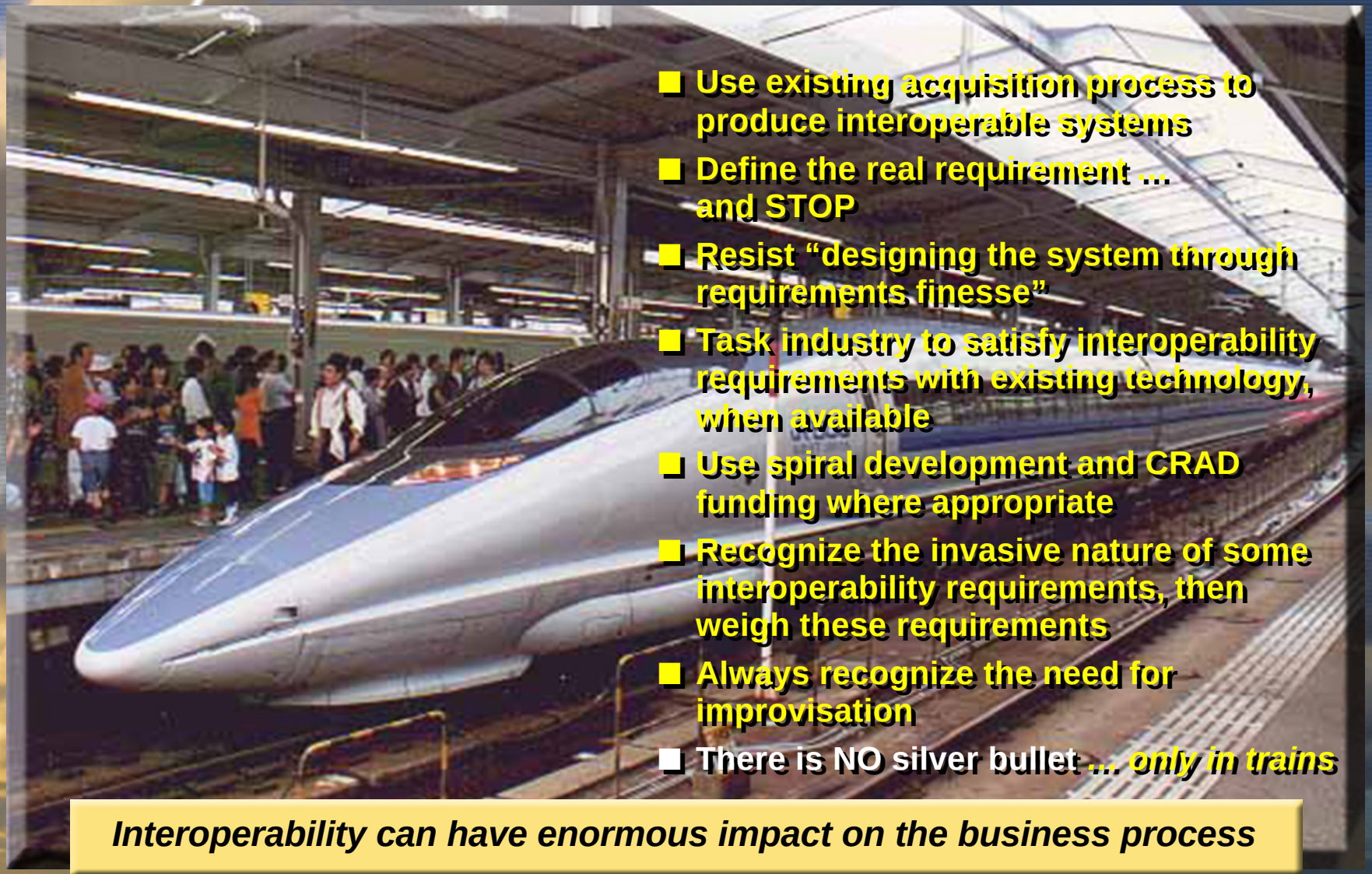
The Interoperability Objective
Destination … Real Interoperability Requirements

Summary - Interoperability Express



- Use existing acquisition process to produce interoperable systems
- Define the real requirement … and STOP
- Resist "designing the system through requirements finesse"
- Task industry to satisfy interoperability requirements with existing technology, when available
- Use spiral development and CRAD funding where appropriate
- Recognize the invasive nature of some interoperability requirements, then weigh these requirements
- Always recognize the need for improvisation
- There is NO silver bullet … *only in trains*

Interoperability can have enormous impact on the business process